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TWO NEW SPECIES OF *EUSCEPTIS* HÜBNER AND
NOTES ON OTHER SPECIES
(LEPIDOPTERA: NOCTUIDAE)

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During the fall of 1965 I located a considerable number of specimens of the genus *Eusceptis* Hübner in the unidentified material of the British Museum (Natural History) and in the Rothschild collection at Tring. At the time, my revision of the genus (1966 [1967], Proc. U.S. Nat. Mus. 119 (3546): 1-22) was in press and the additional data could not be incorporated. In addition, other specimens of the genus have been collected in South and Central America during the intervening years by staff members of the U.S. National Museum and by others. The purpose of the present paper is to record the new distributional data, to describe two new species and to correct a serious misidentification existing in the generic revision.

At the beginning of my investigation of the genus, prior to 1965, the name *Eugraphia effusa* Druce was applied primarily to series of specimens from México and Guatemala in collections. Specimens of the species so identified exhibit a marked sexual difference in the shape of the dark marginal band of the hindwing. The type of *effusa*, a specimen from Volcán de Chiriqui, Panamá, was presumed to be a female because in the original illustration the marginal band of the hindwing seemed to indicate that sex. The distribution of the species was cited in the literature as México to Panamá. The existence of a species complex was not suspected. Shortly before completion of

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my study of the genus, I located three female specimens from Costa Rica in the miscellaneous unidentified material in the U.S. National Museum. They differed in several respects from females previously identified as *effusa*, but it was not until two males, also, from Costa Rica, were received from the Carnegie Museum in Pittsburgh, Pa., that the specimens were recognized as representing a distinct species. The species from Costa Rica was then described as *Eusceptis atriora* Todd. The original description and illustration of *effusa* were not rechecked. Even so, I was puzzled by the absence of typical "*effusa*" in Costa Rica and discussed this point in the treatment of that species. Among the specimens of "*atriora*" now before me are a female from Chiriqui, Panamá, and a male and female from Lino, Panamá. These specimens prompted me to recheck the original description and illustration of *Eusceptis effusa* (Druce). It is now obvious that I misidentified the species. The specimen illustrated by Druce is a male, not a female as presumed in the past, of the species I described as *Eusceptis atriora* new species. The type locality and the statement in the original description of *effusa*, ". . . ; fringe of the primaries greenish-black, that of the secondaries white; . . .," confirm that opinion. Therefore, *Eusceptis atriora* Todd must be placed in the synonymy of *Eusceptis effusa* (Druce) and the species occurring in Texas, México and Guatemala previously misidentified as *effusa* must be described as a new species. A third species of the *effusa* complex is now known and is described herein.

The species of the *effusa* complex differ from the other species of the genus in which the ground color of the hindwing is orange, yellow or white, in that the forewing distad of the postmedial band (excluding the costal pale spot) is dark, lacking the yellow or orange line that extends from tornus toward apex in the terminal area of the forewing of the other species. Species of the *effusa* complex also have a medial line of metallic scales in the distal, black costal mark of the forewing and the hindwings of the males are modified, the inner margin of the hindwing is expanded, upturned and curved over the abdomen forming a concavity on the ventral surface and containing a tuft of long hairs. The following key is provided for separation of the species of the *effusa* complex.

1. Basal costal mark of forewing with a median line of metallic scales; sacculus of left valve of male genitalia more than half as long as valve, terminal process of sacculus directed toward costal margin of valve 2
 Basal costal mark of forewing completely black; sacculus of left valve of male genitalia about half as long as valve, terminal process of sacculus directed toward apex of valve
 *Eusceptis incomptilinea* new species
2. Apex of fringe of hindwing between veins R_s and Cu_1 white; dark marginal band of hindwing of male tapering toward anal angle, width at vein R_s about twice width at Cu_2 ; same band of female reaching anal angle; costal spine of sacculus of right valve of male genitalia shorter than distance from its base to apex of sacculus; sacculus of left valve distinctly wider than sacculus of right valve *Eusceptis effusa* (Druce)
- Fringe of hindwing yellowish-orange; dark marginal band of hindwing of male nearly uniform in width; same band of female usually terminating at about Cu_2 ; costal spine of sacculus of right valve longer than distance from its base to apex of sacculus; sacculus of left valve only slightly wider than sacculus of right valve *Eusceptis flavifimbriata* new species

Eusceptis effusa (Druce)

Figures 1 and 2

Eugraphia effusa Druce, 1889, in Godman and Salvin, *Biologia Centrali-Americana*, Insecta, Lepidoptera, Heterocera, vol. 1, p. 304, table 28, fig. 12; 1898, *ibid.*, vol. 2, p. 492.—Hampson, 1910, *Catalogue of the Lepidoptera Phalaenae in the British Museum*, vol. 10, p. 794.—Strand, 1913, *Arch. Naturg.*, vol. 79(A), nos. 7–9, p. 62.—Draudt, 1939, in Seitz, *Gross-Schmetterlinge der Erde*, vol. 7, p. 397. (in part)

Eusceptis effusa (Druce).—Todd, 1967, *Proc. U.S. Nat. Mus.* 119 (3546): 7. (in part)

Eusceptis atriora Todd, 1967, *Proc. U.S. Nat. Mus.* 119 (3546): 8–10.

[NEW SYNONYMY]

A detailed description of the species may be found in my generic revision, pages 8–9 under *atriora* and does not need to be repeated here. In that description the name, *flavifimbriata*, should be inserted in each instance that the name, “*effusa*,” was used. The male genitalia were illustrated in the generic revision, figure 23 as “*atriora*.”

Distribution: Costa Rica to Bolivia. Twenty specimens from the following localities have been examined. Costa Rica: Sixaola River, Guapiles, Peralta, San Vito, Santa Clara Valley, Avangarez and Pejevalle [Pejivalle?]. Panamá: Lino and Chiriqui. Colombia: Muzo. Bolivia: Rio Songo [Rio Zongo?].



FIGS. 1-6. Dorsal view of adults of *Eusceptis* species: 1, *effusa*, male, Pejevalle, Costa Rica; 2, *effusa*, female, Sixaola River, Costa Rica (Type of *atriora* Todd); 3, *flavifimbriata*, male, paratype, "C.A."; 4, *flavifimbriata*, female, paratype, Misantla, México; 5, *incomptilinea*, male, type, Villavicencio, Colombia; 6, *incomptilinea*, female, paratype, Tarpoto, Perú.

***Eusceptis flavifimbriata* new species**

Figures 3 and 4

Eugraphia effusa Druce.—Draudt, 1939, in Seitz, *Gross-Schmetterlinge der Erde*, vol. 7, p. 397. (in part)

Eusceptis effusa (Druce).—Todd, 1967, *Proc. U.S. Nat. Mus.* 119 (3546): 7. (in part)

Head with proboscis well developed; labial palpi small, very slightly curved dorsad, apical segment slightly exceeding ventral margin of frons, third segment very short, second segment four times as long, vestiture mainly of appressed, pale yellow scales except longer and less appressed along ventral margin, especially first segment and base of second segment, dorsal and dorsolateral area of second segment dark brown or

black except extreme apex; frons smooth, slightly exceeding anterior margin of eye, vestiture of appressed, down and incurved pale yellow scales; eyes large, hemispherical, naked, about equal to frons in width; ocellus small, adnate to upper margin of eye immediately caudad of base of antenna; antenna black, filiform, spiculate laterally and ventrally, spicules minute, about twice as long in male as in female. Vestiture of patagia, tegulae and thorax a mixture of pale yellow hair and scales; a slight decumbent, metathoracic crest present. Abdomen orange dorsally and laterally; segments 3 to 7 of females mostly black or dark brown ventrally, segment 1 + 2 white or pale yellow, a narrow basal band of white scales on other segments, males with more white scaling on segments 3 to 7; apex of abdomen of males with long tufts of hair around genital capsule, dorsal and lateral hairs pale orange, ventral hairs black. Pectus clothed with large, pale yellow or white scales and long, sparse, white hair; tympanum shielded dorsally by a very large alular fan of broad pale yellow scales. Legs banded with dark brown and pale yellow or white scales, dark brown scales highly iridescent in certain lights; foreleg with tibia and tarsus clothed with dark brown scales except some pure white scales at apex of first tarsomere, scales of distal four-fifths of femur dark brown, scales of basal part white, trochanter clothed with longer, less appressed, pale yellow scales; middle leg similar to foreleg except tibia with a broad median ring of loose pale yellow or white scales, dark scales at apex longer, less appressed, white scales at base of femur extending along dorsum to apex, tibial spurs dark brown except extreme apex of long, inner spur white; hindleg similar to middle leg except scales of tibia appressed, pale median part white and extending to base along dorsum, tibial spurs dark basally, white apically except inner basal spur all white. Venation of wings as for genus, accessory cell very small and narrow as in *effusa*. Wing shape and pattern of maculation as illustrated (Figs. 3 and 4), male with inner margin of hindwing modified, upcurved over abdomen and bearing a tuft of long hairs in the pocket formed on the ventral surface. Ground color of basal part of forewing pale yellow; terminal part of dark brown scales with some rust brown patches along outer margin of pale costal spot and immediately distad of postmedial line, especially distad of junction of transverse lines, a small yellow spot sometimes present in rust brown patch; Y-shaped transverse line of metallic gray scales heavily bordered by dark brown scales. Hindwing yellow orange except dark brown marginal band, fringe dark at apex of wing orange from vein Rs to anal angle. Ventral surface of forewing with pale basal half orange, concolorous with pale part of hindwing; apical costal orange spot of hindwing of female larger than spot on dorsal surface; transverse lines of forewing absent except costal part of postmedial band. Length of forewing: male, 13 to 15 mm; female, 14 to 15 mm.

Male genitalia as illustrated (Todd, 1967, Fig. 24, as *effusa*), very similar to that of *effusa* (Todd, 1967, Fig. 23, as *atriora*) except sacculus of left valve not distinctly wider than sacculus of right valve, dorsally

directed process of sacculus of left valve extending toward costal margin of valve at a point just below corona, costal spine of sacculus of right valve longer than distance from its base to apex of sacculus, and costal angle of apex of right sacculus not forming a short, triangular projection. Female genitalia very similar to those of *effusa* except right lobe of seventh abdominal sternite sclerotized to base of median emargination, left lobe of seventh abdominal sternite lacking medial basal projection and dorsal sclerotization of vaginal chamber about three times as long as wide.

Type male, 2 mi. N. Tamazunchale, S.L.P., México, 400 ft., July 16–18, 1963, Duckworth and Davis (U.S.N.M. 64646); 1 male and 1 female paratypes, same data; 1 male and 1 female paratypes, 7 mi. SW. Poza Rica, Ver., México, 200 ft., July 20–22, 1963, Duckworth and Davis; 1 male paratype, Quirigua, Guatemala, May, Schaus and Barnes; 2 male and 2 female paratypes, Cayuga, Guatemala, Aug., Schaus and Barnes; 1 male and 4 female paratypes, same place and collectors, June; 1 male paratype, C. A. [Central America] no date or collector; 1 male paratype, Brownsville, Texas, May 26, 1956, P. A. Glick and 1 female paratype, Misantla, México, May, 1909, R. Müller, in the U.S. National Museum, Washington, D.C. One male paratype, Southern México, Townsend, in the Carnegie Museum, Pittsburgh, Pa. One female paratype, Misantla, Ver., México, June, 1912, W. Gugelmann; 1 female paratype, same place and collector, April–May 1912, and 1 female paratype, Tabasco, México, 1er trimestre, 1914, W. Gugelmann, in the British Museum (Natural History), London, England.

***Euseptis incomptilinea* new species**

Figures 5–7

Very similar to *effusa* and *flavifrimbriata*, but differing from both in that the basal transverse band of the forewing is reduced to a simple black line, the median line of metallic scales present in that band of the other species nearly completely absent, at most only a few scattered scales remaining. In addition the male genitalia are specifically distinct. This species agrees with *effusa* in the white color of the apical half of the fringe scales in the middle part of the termen of the hindwing and in the greenish iridescence of the dark brown scales of the apical part of the forewing. The marginal band of the dorsal surface of the hindwing extends a little nearer the anal angle in the male than in *effusa* and in the female it is more diffuse basad than in *effusa*. Four of the five specimens possess a small pale yellow spot immediately distad of the postmedial band of forewing level with the junction of the transverse lines. The fifth specimen is rubbed on both wings in the area of the small spot and I can not determine whether it was so marked or not. A few specimens of *flavifrimbriata* also possess a small pale yellow spot in the same area of the forewing, but none of the twenty examples of *effusa* that I have studied are so marked.



FIG. 7. Male genitalia, *E. incomptilinea* new species.

Male genitalia as illustrated (Fig. 7). Very similar to the genitalia of *effusa* and *flavifrimbriata* but the sacculus of the left valve shorter than in those species, barely exceeding half the length of the valve, the terminal process of sacculus of left valve narrow, sinuous, directed toward apex of the valve not toward the costal margin; clasper of left valve with a large dorsal tooth at base; hair tuft of left sacculus prominent; costal spine of right sacculus slightly shorter than distance from base of spine to apex of sacculus. Female genitalia similar to the other species of the complex, but with the ventral plate of the seventh abdominal segment much less modified, the posterior margin of the ventral plate only slightly emarginate medially and not strongly sclerotized, the depth of the emargination about one-third the length of the apophyses anteriores.

In the other species of the complex the depth of the emargination of the ventral plate equals or exceeds the length of the apophyses anteriores.

Type male, Villavicencio, Colombia, 400 m., Fassl; 1 female paratype, same data as type; 1 female paratype, Sarayacu, Ecuador, C. Buckley; 1 female paratype, Tarapoto, Perú, May to Aug., 1888, M. de Mathan and 1 male paratype, Bolivia, ex Germain in the collection of the British Museum (Natural History), London, England.

Eusceptis irretita Hübner

Eusceptis irretita Hübner, 1823, *Zuträge zur Sammlung exotischer Schmettlinge* [sic], Zweites Hundert, p. 21, figs. 305, 306.

Twelve additional specimens of this species, 7 ♂♂ and 5 ♀♀ were located in the unplaced material in the British Museum (Natural History). All the specimens are via the Oberthür collection and include a male and female from the Guenée collection. Six males and three females are labeled; Cachimbo, Prov. de Bahia, 1890, Ch. Pujol, one female is labeled S. Antonio da Barra, Prov. de Bahia, 11-22.88, Gounelle, the male from Guenée, Brésil and the female from his collection lacks a locality.

Remarks: These additional specimens provide support for the opinion that the species is probably restricted to the northeastern part of Brazil. The females are the first I have studied of these species. On maculation they appear indistinguishable from *Eusceptis koehleri* Todd.

Eusceptis splendens (Druce)

Eugraphia splendens Druce, 1896, *Ann. Mag. Nat. Hist.*, ser. 6, vol. 18, p. 42.

Twenty-one additional specimens have been examined. They are from Colombia and Venezuela. The following localities have not been previously recorded. Colombia: Muzo; Pacho; Honda; Cananche, Cundinamarca. Venezuela: San Estevan, near Puerto Cabello.

Eusceptis lelae Todd

Eusceptis lelae Todd, 1967, *Proc. U.S. Nat. Mus.* 119 (3546): 16, figs. 13, 14, 25, 26.

One male from Tabasco, México, 1913, via the Oberthür collection was located at the British Museum (Natural History).

Eusceptis extensa (Strand)

Eugraphia extensa Strand, 1913, *Arch. Naturg.*, vol. 79 (A), nos. 7-9, p. 62.

Nineteen specimens, 14 ♂♂ and 5 ♀♀, have been examined. The specimens are labeled, Villavicencio, Colombia, 400 m., Fassl (12 ♂♂ and 3 ♀♀), Upper Rio Negro, Colombia, 800 m., Fassl (1 ♂), Bolivia, Germain (1 ♀), Anhaugahy, Sao Paulo, November 1926, R. Spitz (1 ♂)

and Cachimbo, Prov. de Bahia, 1890, Ch. Pujol (1 ♀). The specimens were located in the British Museum (Natural History) and at Tring.

Remarks: The records from Colombia and Bahia extend the known range of the species well to the north in eastern and in western South America.

Eusceptis robertae Todd

Eusceptis robertae Todd, 1967, Proc. U.S. Nat. Mus. 119 (3546): 18, figs. 9, 10, 31, 32.

Two males and one female all from Tucumán, Argentina, Dr. R. Schreiter were located at Tring. The female has the hindwing uniformly orange like the males.

Eusceptis paraguayensis Draudt

Eugraphia splendens f. *paraguayensis* Draudt, 1939, in Seitz, Gross-Schmetterlinge der Erde, vol. 7, p. 397.

Five females were located in the Rothschild material at Tring. They are labeled as follows: Sapucay, n. Villa Rica, Dec., 07, Foster; Sapucay, Paraguay, 29-IX-03, W. Foster; same place and collector, 7-XI-07; Vilarcia, Paraguay, 17-1-25, F. Schade; and Villa Ana, Sta Fe, Argentina, February, 1927, K. J. Hayward.

Remarks: One female from Sapucay, Paraguay, has the hindwings nearly entirely orange with only a small black apical spot present. The oblique bar of the forewing resembles that of *E. robertae* Todd, but that species is known only from Tucumán, Argentina, and I have not seen females with an apical spot on the hindwing.

